

Fig. 2A



KCLFDAU
KCLFPEU
KCLFACT
KCLFHIR
KCLFGRA
KCLFNOG
KCLFTCM
KCLFCIN
KCLFVNZ
KCLFWHIE
KSGRA
KSHIR
KSACT
KSCIN
KSVNZ
KSNOG
KSTCM
KSDAU
KSPEU
KSWHI

-PLEAGVITASASGGFASGQRELQNLWSKG-----PAHVSAYMSFAWFY-AVNTGQIAIR
-PLEAGVITASASGGFAFGQRELQNLWSKG-----PAHVSAYMSFAWFY-AVNTGQIAIR
TDYDMGVVTANACGGFDFTHREFRKLWSEG-----PKSVSVYESFAWFY-AVNTGQISIR
PEYGTGVITSNATGGFEFTHREFRKLWAQG-----PEFVSVYESFAWFY-AVNTGQISIR
DDYDLGVVTSTAQGGFDFTHREFRKLWSQG-----PAYVSVYESFAWFY-AVNTGQISIR
PEYGVGVVTASSAGGFEFGHRELQNLWSLG-----PQYVSAYQSFAWFY-AVNTGQVSIR
DEYGLGVLTAAAGAGGFEFGQREMQLWGTG-----PERVSAYQSFAWFY-AVNTGQISIR
DPLDMGVVTASHAGGFEFGQDELQKLGGQ-----QPVL SAYQSFAWFY-AVNSGQISIR
DDFTMGVVITASASGGFEFGQELQKLWSQG-----SQYVSAYQSFAWFY-AVNSGQISIR
SPYSVGVVTAAGSGGGEFGQRELQNLWGHG-----SRHVGPYQSI AWFY-AASTGQVSIR
DPSRIGVALGS AVASATSLENEYLVMSDSGREWLVDPAHLS PPMFDYLSPGVMPAEVAWA
PPERIGVSLGS AVAAATSLQEYLVLS DGGREWQVDPAYLSAHMF DYLSPGVMPAEVAWT
DPA RVGVS LGS AVAAATSLEREYLLSDSGRDWEVDAAWLSRHMFDYLVPSVMPAEVAWA
PPHRI GVVVGS AVGATMGLDNEYRVVSDGGRDLVDHRYAVPHLYNYLVPSF AA EVAWA
DPYRVGVTVGS AVGATMGLDEEYRVVSDGGRDLVDHAYAVPHLYDYMPVPSF AA EVAWA
DASRTGVVVGSAVGCTTSLEEYAVVSDSGRNWLVD DGYAVPHLFDYFVPSSIAAEVAHD
NPERIGVSI GTAVGCTTGLDREYARVSEGGSRWLVDHTLAVEQLFDYFVPTSICREVAWE
SAHRVGVCVGTAVGCTQKLESEYVALSAGGANWVDPH RGAPELYDYFVPSSIAAEVAWL
SAHRVGVCVGTAVGCTQKLESEYVALSAGGAHWVDPGRGSP ELYDYFVPSSIAAEVAWL
DPWRAGATLGTAVGCTTRLESHYVVLV SERGSRWDVDDRRSEPHLERAFTPATLSSA VAE

* *

KCLFDAU
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KCLFACT
KCLFHIR
KCLFGRA
KCLFNOG
KCLFTCM
KCLFCIN
KCLFVNZ
KCLFWHIE
KSGRA
KSHIR
KSACT
KSCIN
KSVNZ
KSNOG
KSTCM
KSDAU
KSPEU
KSWHI

-HDLRGPVGVVVAEQAGGLDALAHAR-RKVRGGAE-LIVSGAMDSS LCP-YGMAAQVRSG
-HDLRGPVGVVVAEQAGGLDALAHAR-RKVRGGAE-LIVSGAVDSS LCP-YGMAAQVKSG
-HGMRGPS SALVAEQAGGLDALGHAR-RTIRRGTP-LVVS GGVDSSALDP-WGVV SQIASG
-HGLRGP GSVLVAEQAGGLDAVGHGG--AVRNGTP-MVVTGGVDSS FDP-WGVVSHVSSG
-NTMRGPSAALVGEQAGGLDAIGHAR-RTVRRGPG-WCSAVASTRRSTR-GASSSQLSGG
-HGLRGP GGVLTVEQAGGLDALGOAR-RQLRRGLP-MVVA GAVDGS PCP-WGVVAQLSSG
-HGMRGHSSVFTEQAGGLDAAAHAA-RLLRKGT LNTALTGGCEAS LCP-WGLVAQIPSG
-HGMKGPSGVVVS DQAGGLDALAQAR-RLVRKGTP-LIVCGAVEPR SAPGAGSPSSPAGG
-NGMKGPSGVVVS DQAGGLDAVAQAR-RQIRKGTR-LIVSGGV DAS LCP-WGVVAHVASD
-NDFKGP CGVVADEAGGLDALAHAA-LAVRNGTD-TVVC GATEAPLAP-YSI VCQLGYP
-AGAEGPV TMVSDGCTSG LDSVGYAV-QGTR EGSADVVVAGAADTPVSP I VVCFDAIKA
-VGAEGPVAMVSDGCTSG LDSL SHAC-SL LAEGTTDVMVAGAADTPITPIV VSCFDAIKA
-VGAEGPV TMVSTGCTSG LDSVGN AV-RAIEEGSADVMFAGAADTPITPIV VACFDAIRA
-VGAEGPSTVSTGCTSG IDAVGI AV-ELVREGSVDVMVAGAVDAPISPI P-CVLDAIKA
-VGAEGPNTVSTGCTSG LDSVGYARGELIREGSADVM IAGSSDAPISPI TMACFDAIKA
RIGAEGPVSLVSTGCTSG LDAVGRAA-DLIAEGAADVMLAGATEAPISPI T VACFDAIKA
-AGAEGPVTVSTGCTSG LDAVGYGT-ELIRDGRADV VVCGATDAPISPI T VACFDAIKA
-AGAEGPVNIVSAGCTSG IDSIGYAC-ELIREGTVDVM LAGGVDAPIAPITVACFDAIRV
-AGAEGPVNIVSAGCTSG IDSIGYAC-ELIREGTVDAMVAGGVDAPIAPITVACFDAIRA
-FGVRGPFVQTVSTGCTSG LDAVGYAY-HAVAEGRVDVCLAGAADSPISPI TMACFDAIKA

* *

KCLFDAU
KCLFPEU
KCLFACT
KCLFHIR
KCLFGRA
KCLFNOG
KCLFTCM
KCLFCIN
KCLFVNZ
KCLFWHIE

RLSGSDDPTAGYLPFDRRAAGHVPGEG-GAILAVEDAERVAERG-GK VYGS IAGT-ASFD
RLSGSDNPTAGYLPFDRRAAGHVPGEG-GAILTVEDAERAAERG-AKVYGS IAGYGASFD
RISTATDPDRAYLPFDERAAGVVPGE G-GAILVLEDSAAA EARGRH DAYGELAGCASTFD
RVSRATDPGRAYLPFDVAANGVVPGE G-GAILLEDAESA KARG-ATGYGEIAGYAATFD
LVSTVADPERAYLPFDVDASGYVPGE G-GAVLIVEDADSARARG---AERIYVRSPLRRD
GLSTSDDPRRAYLPFDAAAGGHVPGEG-GALLVLESDESARARGVTRWYGRIDGYAATFD
FLSEATDPHDAYLPFDARAAGVVPGE G-GAMLVAERADSARERDAATVYGR IAGHASTFD
-MSDSDEPNRAYLPFDRDGRGYVPGGRGVVPPLERA EAAPARG-AEVYGE-AGPLARL-
RLSTS EEPARGYLPFDREAQGHVPGEG-GAILVMEAAEAARERG-ARIYGEIAGYGSTFD
ELSRATEPDRAYRPFTEAACGFAPAEG-GAVLVVEEEAAARERG-ADV RATVAGHAATFT

Fig. 2B



KSGRA
KSHIR
KSACT
KSCIN
KSVNZ
KSNOG
KSTCM
KSDAU
KSPEU
KSWHI

KCLFDAU
KCLFPEU
KCLFACT
KCLFHIR
KCLFGRA
KCLFNOG
KCLFTCM
KCLFCIN
KCLFVNZ
KCLFWHIE
KSGRA
KSHIR
KSACT
KSCIN
KSVNZ
KSNOG
KSTCM
KSDAU
KSPEU
KSWHI

TTPRNDPAHASRPFDTGTRNGFVLAEG-AAMFVLEEEYAAQRRG-AHIYAEVGGYATRSQ
TTPRNDPEHASRPFDSRNGFVLAEG-AALFVLEELHARARG-AHVYAEISGCATRLN
TTARNDPEHASRPFDTGTRNGFVLAEG-AAMFVLEEDYDSALARG-ARIHAEISGYATRCN
TTPRHDAPATASRPFDTGTRNGFVLAEG-AAFFVLEELHSARRRG-AHIYAEIAGYATRSN
TTNRYDDPAHASRPFDTGTRNGFVLAEG-AAVFVLEELHARARG-AHIYAEIAGYATRSN
TTPRNDTPAEASRPFDTGTRNGFVLAEG-AAVFVLEEFHARRRG-ALVYAEIAGFATRCN
TSANNDPAHASRPFDRNRDGFVLAEG-SAVFVLEELHARARG-AHAYAEVRGFATRSN
TSDHNDTPETLA-PFSRSRNGFVLAEG-GAIVVLEEEAAVRRG-ARIYAEIGGYASRGN
TSDHNDTPETASRPFDSRNGFVLAEG-GAIVVLEEEAAVRRG-ARIYAEIGGYASRGN
TSPNNDPAHASRPFADNRNGFVLAEG-AAVLVLEELHARARG-ADVCEVSGYATFGN

* * * * *

-PPPGSGRP---SALARAVETALADAGLDRSDIAVVFADGAA-VGELDVAEEALASVFG
-PPPGSGRP---SALARAVETALADAGLDSIAVVFADGAA-VPELDAEEALASVFG
-PAPGSGRP---AGLERAIRLALNDAGTGPEVDVVFADGAG-VPELDAEEAIRIGRVFG
-PAPGSGRP---PALRRALALADAEALRPEQVDVVFADAG-VAELDAIEAAAIREFG
-PAPGSGRP---PALGRAELALAEAGLTPADISVVFADGAG-VPELDRAEADTLARLFG
-PPPGSGRP---PNLLRAAQALDDAEVGPEDVVFADAG-TPELDAEADAVRRFLFG
-ARPGTGRP---TGPARAIRLALAEARVAPEDVVFADAG-VPELDRAEAEALAEVFG
-PAPGSGRP---STRAHAIRLALNDAGTAPGDIRRVFADGGGRYPN-DRAEAEAISEVFG
-PRPGSGRE---PGLRKALALADAGAAPGDIRVVFADAG-VPELDRAEAEALNAVFG
GAGRWAESE---BGLARAIQALAEAGCRPEEDVVFADAG-VPEADRAEALALADALG
-AYHMTGLKKGREMAESIRALDEARLDRTAVDYVNAHSGG-TKQNDRHETAFAFKRSLG
-AYHMTGLKTDGREMAEIRVALDLARIDPTDIDYINAHSGG-TKQNDRHETAFAFKRSLG
-AYHMTGLKADGREMAETIRVALDESRTDIDYINAHSGG-TKQNDRHETAFAFKRSLG
-AYHMTGLR-DGAEMAEIRLALDEARLNPEQVDYINAHSGG-TKQNDRHETAFAFKRSLG
-AYHMTGLRPDGAEMAEIRVALDEARMNPTEIDYINAHSGG-TKQNDRHETAFAFKRSLG
-AFHMTGLRPDGREMAEAI GVALAQAGKAPADVDYVNAHSGG-TKQNDRHETAFAFKRSLG
-AFHMTGLKPDGREMAEAI TAALDQARRTGDDLYINAHSGG-TKQNDRHETAFAFKRSLG
-AYHMTGLRADGAEMAAAI TAALDEARRDP SDVDYVNAHGT-TKQNDRHETAFAFKRSLG
-AYHMTGLRADGAEMAAAI TAALDEARRDP SDVDYVNAHGT-TKQNDRHETAFAFKRSLG
-AYHMTGLTKEGLEMARAI DTALDMAELDGSADYVNAHSGG-TKQNDRHETAFAFKRSLG

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Fig. 2C



KCLFDAU
KCLFPEU
KCLFACT
KCLFHIR
KCLFGRA
KCLFNOG
KCLFTCM
KCLFCIN
KCLFVNZ
KCLFWHIE
KSGRA
KSHIR
KSACT
KSCIN
KSVNZ
KSNOG
KSTCM
KSDAU
KSPEU
KSWHI

P--HRVPVTVPKLTGRLYSGAGPLDVATGLLALRDEVVPATGHVH-PDPDLPLDVVTGR
P--RRVPVTVPKLTGRLYSGAGPLDVATALLALRDEVVPATAHVD-PDPDLPLDVVTGR
R--EGVPVTVPKTTTGRLYSGGGPLDVVTALMSLREGVIAPTAGVTSVPREYIDLVLGE
P--SGVPVTAPKMTMTGRLYSGGGPLDLVAALLAIRDGVIPTVHTAEFVPEHQDLVLTGD
P--RGVPVTAPKALTGRLCAGGGPADLAAALLALRDQVI PATGRHRAVPDAYALDLVTGR
P--YGVVTVAPKMTMTGRLSAGGAALDVATALLALRDEVVPPTVNVSRPRPEYELDLVLA-
P--GAVPVTAPKMTMTGRLYAGGAALDVATALLSIRDCVVPPTVGTGAPAPGLGIDLVLHQ
P--GRVPVTCPRMTMTGRHLSGAAPLDVACALLAMRAGVIPTVHID-PCPEYDLDLVLYQ
T--GAVPVTAPKMTMTGRLYSGAAPLDLAAFLAMDEGVIPTVNVVE-PDAAYGLDLVVGG
PHAARVPVTAPKTGTGRAYCAAPVLDVATAVLAMEHGLIPPTPHVL--DVCHDLDLVTGR
EHAYAVPVSSIKSMGGHSLGAIGSIEIAASVLAIEHNVVPTANLHTPDPECDLDYVPLT
EHAYRTPVSSIKSMVGHSLGAIGSIEVAACALAIIEHGVVPTANLHEPDPECDLDYVPLT
EHARRTPVSSIKSMVGHSLGAIGSLEIAACVLALEHGVVPTANLRTSDPECDLDYVPLE
EHAYRTPVSSIKSMVGHSLGAIGSIEIAASALAMEYDVVPPTANLHTPDPECDLDYVPLT
DHAYRTPVSSIKSMVGHSLGAIGSIEIAASALAMEHNVVPTGNLHTPDPECDLDYVVR-S
DHAYRVPVSSIKSMIGHSLGAIGSLEIAASVLAITHDVVPPTANLHEPDPECDLDYVPLR
QRAYDVPVSSIKSMIGHSLGAIGSLELAACALAIIEHGVIPPTANYEEDPECDLDYVNV
DHAYRVPISSVKSIGHSLGAAGSLEVAATALAVEYGAIPTANLHDPPELDLDYVPLT
EHAYRVPISSIKSMIGHSLGAVGSLEVAATALAVEYGVIPPTANLHDPPELDLDYVPLT
EHAYATPMSSIKSMVGHSLGAIGSIEIAACVLAHMAHQVVPPTANYTTPDPECDLDYVPRE

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KCLFDAU
KCLFPEU
KCLFACT
KCLFHIR
KCLFGRA
KCLFNOG
KCLFTCM
KCLFCIN
KCLFVNZ
KCLFWHIE
KSGRA
KSHIR
KSACT
KSCIN
KSVNZ
KSNOG
KSTCM
KSDAU
KSPEU
KSWHI

PRAMADARAALVVARGHGGFNSALVVRGAA-----
PRSLADARAALLVARGYGGFNSALVVRGAA-----
PRSTAPRTA-LVLARGRWGFNSAAVLRFAFTP-----
PRHQQLGTA-LVLARGKWGFNSAVVVRGVITG-----
PREAALSAA-LVLARGRHGFNSAVVVTLRGSDHRRPT
PRRTPLARA-LVLARGRGGFNAAMVVAGPRAETR---
PRELRVDTA-LVVARGMGGFNSALVVRRHG-----
VRPAALRTA-LGGARGHGGFNSALVVRAGQ-----
PRTAEVNTA-LVIARGHGGFNSAMVVRSAN-----
ARPAEPRTA-LVLARGLMGSNSALVLRGAVPPEGR-
AREQRVDTV-LTVSGFGGFQSAMVLRPEEAA-----
AREQRVDTV-LSVSGFGGFQSAMVLRRLGGANS---
AREKRLRSV-LTVSGFGGFQSAMVLRDAETAGAAA-
ARDQRVDSV-LTVSGFGGFQSAMVLTSAQ---RSTV
CREQLTDSV-LTVSGFGGFQSAMVLARPE---RKIA
ARACPVDTV-LTVSGFGGFQSAMVLCGPGSRGRSAA
AREQRVDTV-LSVSGFGGFQSAAVLARPKETRS---
AREKRVRHA-LTVSGFGGFQSAMLLSRPER-----
AREKRVRHA-LTVSGFGGFQSAMLLSRLER-----
ARERTL RHV-LSVSGFGGFQSAVVLGSGEGGLR---

* . * . * * : : *

mole:-/ks2%

Fig. 2D

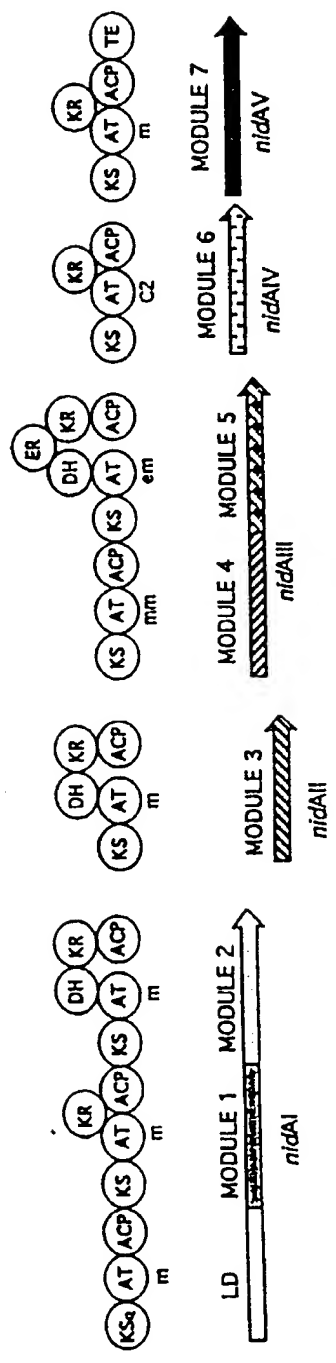


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ORGANISATION OF THE NIDDAMYCIN-PRODUCING POLYKETIDE SYNTHASE



m: malonyl transferase
mm: methylmalonyl transferase
em: ethylmalonyl transferase
C2: unknown C2 unit transferase

Fig. 3B



	1		50
niddamycin	-----	MAGHGDATAQ	KAQDAEKSED GSDAIAVIGM
platenolide	-----	-----MS	GELAISRSD RSDAVAVVGM
monensin	-----	-----MAAS	ASASPSGPSA GPDPIAVVGM
oleandomycin	-----	-----	---MHVPGEE NGHSIAIVGI
tylosin	MSSALRRVQ	SNCGYGDLMT	SNTAAQNTGD QEDVDGPDST HGGEIAVVGM
	51		100
niddam...	SCRFPGAPGT	AEFWQLLSSG	ADAVVTAADG RRR.....GTIDA
platenol.	ACRFPGAPGI	AEFWKLLTDG	RDAIGRDADG RRR.....GMIEA
monensin	ACRLPGAPDP	DAFWRLLESEG	RSVSTAPPE RRRADSGLHG P...GGYLD
oleandom	ACRLPGSATP	QEFWRLLADS	ADALDEPPAG RFPTGSLSSP PAPRGGFLLDS
tylosin	SCRLPGAAGV	EEFWELLRSG	RGMPTRQDDG TWRAA.....LED
	101		150
niddam...	PADFDAFFG	MSPREAAATD	PQQLVLELG WEALEDAGIV PESLRGEAAS
platenol.	PGDFDAFFG	MSPREAAETD	PQQLMLELG WEALEDAGIV PGSRLGEAVG
monensin	IDGFDADFFH	ISPRAVAMD	PQQLLLELS WEALEDAGIR PPTLARSRTG
oleandom	IDTFDADFFN	ISPRAEGLD	PQQLALELG WEALEDAGIV PRHLRGTRTS
tylosin	HAGFDAGFFG	MNARQAAATD	PQHRLMLELG WEALEDAGIV PGDLTGTDGT
	151		200
niddam...	VFVGAMNDDY	ATLLH.RAGA	PTDTYTATGL QHSMIANRLS YFLGLRGPSL
platenol.	VFVGAMHDDY	ATLLH.RAGA	PVGPHTATGL QRAMLANRLS YVLGTRGPSL
monensin	VFVGAFWDDY	TDVLNLRAPG	AVTRHTMTGV HRSILANRLS YAYHLAGPSL
oleandom	VFMGAMWDDY	AHLAHARGE	ALTRHSLTGT HRCMIANRLS YALGLQGPSL
tylosin	VFAGVASDDY	A.VLTRRSV	SAGGYTATGL HRLAANRLS HFLGLRGPSL
	201		250
niddam...	VVDTGQSSSL	VAVALAVESL	RGGTSGIALA GGVNLVLAEE GS.AAMERVG
platenol.	AVDTAQSSSL	VAVALAVESL	RAGTSRVAVA GGVNLVLADE GT.AAMERLG
monensin	TVDTAQSSSL	VAVHLACESI	RSGDSIAFA GGVNLICSPR TTELAARFG
oleandom	TVDTGQSSSL	AAVHMACE	SL ARGESDLALV GGVNLVLDPA GT.TGVERFG
tylosin	VVDSAQSASL	VAVQLACESL	RRGETSLAVA GGVNLILTEE ST.TVMERMG
	251		300
niddam...	ALSPDGRCHT	FDARANGYVR	GEGGAIVVLK PLADALADGD RVYCVVRGVA
platenol.	ALSPDGRCHT	FDARANGYVR	GEGGAIVVLK PLADALADGD RVYCVVRGVA
monensin	GLSAAGRCHT	FDARADGFVR	GEGGGLVVLK PLAAARRDGD TVYCVIRGSA
oleandom	ALSPDGRCHT	FDSRANGYAR	GEGGVVVVLK PTHRALADGD TVYCEILGSA
tylosin	ALSPDGRCHT	FDARANGYVR	GEGGAVVLK PLDAALADGD RVYCVIKGGA
	301		350
niddam...	TGNDGGGPGL	TVPDRAGQEA	VLRAACDQAG VRPADVRFVE LHGTGTPAGD
platenol.	VGNDGGGPGL	TAPDREGQEA	VLRAACAQAR VDPAEVRFVE LHGTGTPVGD
monensin	VNSDGTTDGI	TLP SGQAQOD	VVRLACRRAR ITPDQVQYVE LHGTGTPVGD
oleandom	LNNDGATEGL	TVPSARAQAD	VLQAWERAR VAPTQVQYVE LHGTGTPAGD
tylosin	VNNDGGGASL	TTPDREAQEA	VLQAYRRAG VSTGAVRYVE LHGTGTRAGD

Fig. 4A



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351
niddam... PVEAEALGAV YGTGRP..AN EPLLVGSVKT NIGHLEGAAG IAGFVKAALC 400
platenol. PVEAHALGAV HSGSRP..AD DPLLVGSVKT NIGHLEGAAG IAGLVKAALC
monensin PIEAAALGAA LGQDAA..RA VPLAVGSAKT NVGHLEAAAG IVGLLKTALS
oleandom PVEAEGLGTA LGTARP..AE APLLVGSVKT NIGHLEGAAG IAGLLKTVLS
tylosin PVEAAALGAV LGAGADSGRS TPLAVGSVKT NVGHLEGAAG IVGLIKATLC

401
niddam... LHERALPASL NFETPNPAIP LERLRLKVQT AHAALQPGTG GGPLLAVGSA 450
platenol. LRERTLPGSL NFATPSPAIP LDQLRLKVQT AAAELPLAPG GAPLLAGVSS
monensin IHHRRLAPSL NFFTTPNPAIP LADLGLTVQQ DLADWP..RP EQPLIAGVSS
oleandom IKNRHLPASL NFFTSPNPRID LDALRLRVHT AYGPWP..SP DRPLVAGVSS
tylosin VRKGELVPSL NFSTPNPDIP LDDLRLRVQT ERQEW.NEED DRPRVAGVSS

451
niddam... FGMGGTNCHV VLEETPGG... ..RQPAE.T 500
platenol. FGIGGTNCHV VLEHLPSR... ..PTPAV.S
monensin FGMGGTNCHV VVA....AAP DSVAVPEPVG VPERVEVPEP VVVSEPVVVP
oleandom FGMGGTNCHV VLSELNAGG DGAGKGPTYG TEDRLGATEA EKRPDPATGN
tylosin FGMGGTNVHL VIAEAPAAAG SSGAGGSGAG SGAGISAVSG VV.....

501
niddam... GQADACLFSA SPMLLLSARS EQALRAQAAR LREHL..EDS GADPLDIAYS 550
platenol. VAAS...LPD VPPLLLSARS EGALRAQAVR LGETV..ERV GADPRDVAYS
monensin TPWP.....VSAHS ASALRAQAGR LRTHLAAHRP TPDAARVGHA
oleandom GPDPAQDTHR YPALILSARS DAALRAQAER LRHHL.EHSP GQRLRDTAYS
tylosinPVVVSGRS RVVVREAAGR LAE..VVEAG GVGLADVAVT

551
niddam... LATTRTRFEH RAAVPCGDPD RLSSALAALA AGQTPRGVRI GS..TDADGR 600
platenol. LASTRTLFEH RAVVPCGGRG ELVAALGGFA AGRVSGGVRS GR..A.VPGG
monensin LATRAPLAH RAVLLGGDTA ELLGSLDALA EGAETASIVR GEAYT..EGR
oleandom LATRRQVFER HAVVTGHDRE DLLNGLRDLE NGLPAPQVLL GRTPTPEPGG
tylosin MAD.RSRFGY RAVVLARGEA ELAGRLRALA GGDPDAGVVT G...AVLDGG

601
niddam... LALLFTGQGA QHPGMGQELY TTDPHFAAAL DEVCEELQRC GTQNLREVMF 650
platenol. VGVLF TGQGA QWVGMRGLY AGGGVFAEVL DEVL SMVGEV DGRSLRDVMF
monensin TAFLFSGQGA QRLGMGRELY AVFPVFADAL DEAFALDVH LDRPLREIVL
oleandom LAFLFSGQGS QQPGMGKRLH QVFPGRDAL DEVCAELDTH LGRL.....
tylosin VVGAAPGGA GAAGGAGAAG GAGGGGVVLV FPGQGTQWVG MGAGLLGSSE

651
niddam... TPDQPD.... ..LLDRTEYTOP ALFALQATALY 700
platenol. GDVDVDAGAG ADAGAGAGAG VSGSGSVGG LLGRTEFAQP ALFALEVALF
monensin GETDSGGNVS GENVIGEGA.DHQA LLDQTAYTOP ALFAIETSLY
oleandom .GPEAGPPLR DVMFAERGT.AHSA LLSETHYTQA ALFALETALF
tylosin VFAASMRECA RALSVHVGWD LLEVVS GGAG .LERVDVVQP VTWAVMVS LA

701
niddam... RTLTARGTQA HVLGHSVGE ITAAHIAGVL DLPDAARLIT ARAHVMGQLP 750
platenol. RALEARGVEV SVVLGHSVGE VAAATVAGVL SLGDAVRLVV ARGGLMGGLP
monensin RLAASFGLKP DYVLGHSVGE IAAAHVAGVL SLPDASALVA TRGRLMQAVR
oleandom RLLVQWGLKP DHLAGHSVGE IAAAHAGIL DLSDAELVA TRGALMRSLP
tylosin RYWQAMGVDV AAVVGHSQGE IAAATVAGAL SLEDAAVVA LRAGLIGRYL

Fig. 4B



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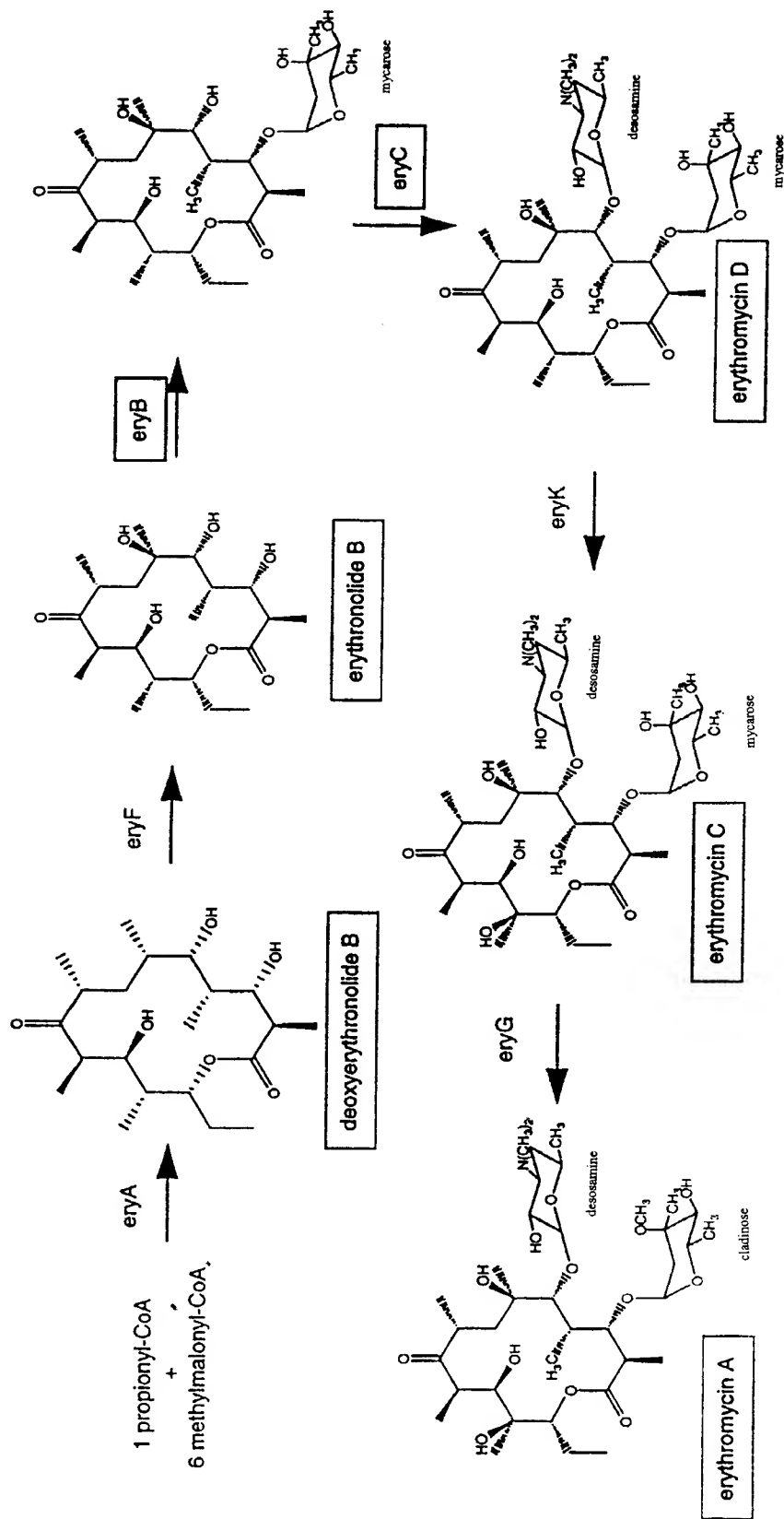
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	751		800		
niddam...	HG.GAMLSVQ	AAEHDLQLA	HTHG..VEIA	AVNGPTHCVL	SGPRTALEET
platenol.	VG.GGMWSVG	ASESVVRGVV	EGLGEWVSVA	AVNGPRSVVL	SGDVGVLSEV
monensin	AP.GAMAAWQ	ATADEAAEQL	AGHERHVTVA	AVNGPDSVVV	SGDRATVDEL
oleandom	GG.GVMLSVQ	APESVAPLL	LGREAHVGLA	AVNGPDAVVV	SGERGHVAAI
tylosin	AGRGAMAAVP	LPAGEVEAGL	.AKWPGVEVA	AVNGPASTVV	SGDRRAVAGY
	801		850		
niddam...	AQHLREQNVR	HTWLKVSHAF	HSALMDPMLG	AFRDTLNTLN	Y..QPPTIPL
platenol.	VASLMGDGVE	YRLDVSHGF	HSVLMEPVLG	EFRGVVESLE	FGRVBPVGVV
monensin	TAAWRGRGRK	AHHLKVSHAF	HSPHMDPILD	ELRAVAAGLT	FHE..PVIPV
oleandom	EQILRDRGRK	SRYLRVSHAF	HSPLMPEVLE	EFAEAVAGLT	FRA..PTTPL
tylosin	VAVCQAEVQ	ARLIPVDYAS	HSRHVEDLKG	ELERVLSGI	.RPRSPRPV
	851		900		
niddam...	ISNLTGQIA.	.....DPNHL	CTPDYWIDHA	RHTVRFADAV	QTAHHQGTIT
platenol.	VSGVSGGVV.	.....GSGEL	GDPGYWVRHA	REAVRFADGV	GVVRGLGVGT
monensin	VSNVTGELVT	ATATGSGAGQ	ADPEYWARHA	REPVRFLSGV	RGLCERGVT
oleandom	VSNLTG....	..APVDDRTM	ATPAYWVRHV	REAVRFGDGI	RALGKLGTGS
tylosin	CSTVAGEQPG	EPVF.....	.DAGYWFRL	RNRVEFSAVV	GGLLEEGRHR
	901		950		
niddam...	YLEIGPHPTL	TTLHHTL..	.DNP.....	.....T	TIPTLHRERP
platenol.	LVEVGPHGVL	TGMAGECLGA	GDDV.....	.....V	VVPAMRRGRA
monensin	FVELGPDAPL	SAMARDCFPA	P.....	.ADRSRPRPA	AIATCRRGRD
oleandom	FLEVPGDGVL	TAMARACVTA	APEPGHRGEQ	GADADAHTAL	LLPALRRGRD
tylosin	FIEVSAHPVL	V.....	.....HAIEQ	TAEAADRSVH	ATGTLRRQDD
	951				
niddam...	EPETLTQAIA	AVGVRTDGID	WAVLCGASRP	RRVELPTYAF	
platenol.	EREVFEEALA	TVFTRDAGLD	ATALHTGSTG	RRIDLPTTFF	
monensin	EVATFLRSLA	QAYVRGADV	FTRAYGATAT	RRFPLPTYPF	
oleandom	EARSLTEAVA	RLHLHGVPMD	WTSVLGGDVS	.RVPLPTYAF	
tylosin	SPHRLLTSTA	EAWAHGATLT	WDPAL..PPG	HLTTLPTYPF	

niddam: niddamycin; platenol: platenolide I (spiramycin); oleandom: oleandomycin.

Fig. 4C



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Figure 5

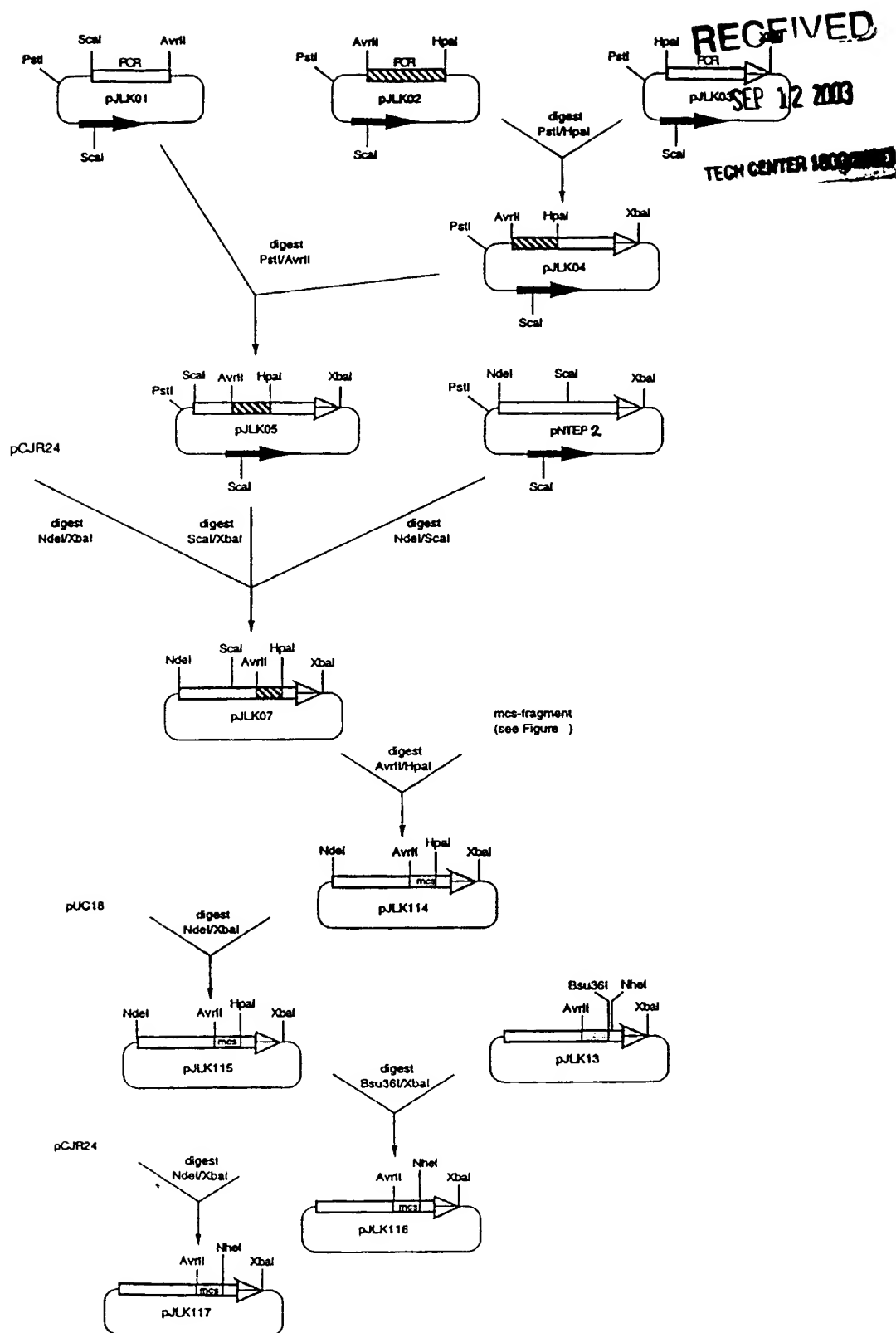
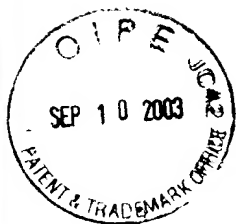


Figure 6



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forward (Plf):

5'-CTA GGC CGG GCC GGA CTG GTA GAT CTG CCT ACG TAT CCT TTC CAG GGC AAG CGG TTC TGG CTG CAG CCG GAC CGC ACT AGT CCT CGT GAC GAG
GGA GAT GCA TCG AGC CTG AGG GAC CGG TT-3'

backward (Plb):

5'-AAC CGG TCC CTC AGG CTC GAT GCA TCT CCC TCG TCA CGA GGA CTA GTG CGG TCC GGC TGC AGC CAG AAC CGC TTG CCC TGG AAA GGA TAC GTA
GSC AGA TCT ACC AGT CCG GCC CGG C-3'

oligos annealed:

CTAGGCCGGCCGGACTGGTAGATCTGCCTACGTATCTCTTCCAGGGCAAGCGGTTCTGGCTGACGCCGACCTAGTCTCTCTGACGAGGAGATGCATCGAGCCTGAGGGACCGGTT
CGGCCCGCCCTGACCATCTAGACGGATGCATAGGAAGTCCCGTTCCGCAAGACCGACGTCGGCGTGATCAGGAGCACTGCTCCCTCTACGTAGCTCGGACTCCCTGGCCAA

AvrII BglII SnaBI PstI SpeI NsiI Bsu36I HpaI

Figure 7